

REMARKS

As of the filing of the present Office Action, claims 1-16 were pending in the above-identified US Patent Application. In the Office Action, the Examiner rejected independent claims 1 and 10 and their dependent claims 2-9 and 11-16 under either 35 USC §102 in view of U.S. Patent No. 5,040,889 to Keane or under 35 USC §103 in view of Keane in further view of U.S. Patent No. 6,431,446 to Gu et al. (Gu), U.S. Patent No. 6,655,778 to Arquilevich et al. (Arquilevich), U.S. Patent No. 5,974,210 to Alcock et al. (Alcock), or well-known art. In response, Applicant has amended the claims as set forth above. In particular:

Independent claims 1 and 10 have been amended to recite that the sample material illuminated by the illuminant light source (3) is within a chamber (13), to recite a housing (1) that encases and seals optical components (3, 4, 7, etc.) of the probe system, and to recite means (12) for mounting the housing (1) to the chamber (13), all of which are shown in FIGS. 1 and 2 and described in text within the specification relating to these figures.

Claim 1 has been further amended to recite that the housing (1) has a window (10/11) through which illuminant light from the illuminant light source (3) exits the housing (1) and enters the chamber (13) and through which the

reflected light from the sample material within the chamber (13) is reflected to the optical pickup means (4). Support for this amendment can be found in FIGS. 1 and 2 and in text within the specification relating to these figures.

Dependent claim 8 (which depends from claim 1) and independent claim 10 have been amended to recite that the window (10/11) of claim 1 and the window (10) of claim 10 are curved to so that a reflected portion of the illuminant light that is reflected by the window (10/11) is projected back to the illuminant light source (3) and away from the optical pickup means (4).

Support for this amendment can be found in Applicant's specification at [Para 27].

Claim 10 has been further amended to recite that the mounting means (12) has a second window (11) through which illuminant light from the illuminant light source (3) enters the chamber (13) and through which the reflected light from the sample material within the chamber (13) is reflected to the optical pickup means (4). Support for this amendment can be found in FIGS. 1 and 2 and in text within the specification relating to these figures.

Dependent claims 7 and 15 (which depend from claims 1 and 10, respectively) have been amended to further recite the shutter (18) as being a rotatable wheel (18) having at least one aperture (30) and at least one shutter

(20) that are each located so as to be selectively alignable with the optical pickup means (4) to expose or shutter, respectively, the optical pickup means (4) with respect to the reflected light. Support for this amendment can be found in FIGS. 1, 2 and 3 and in Applicant's specification at [0024]-[0027] and [0030].

Dependent claims 9 and 16 have been amended to recite that the mounting means (12) recited in their parent claims 1 and 10 comprise a pipe fitting (12) attached to the chamber (13) and a clamp (17) attaching the housing (1) to the pipe fitting (12). Support for this amendment can be found in FIGS. 1 and 2 and in Applicant's specification at [0021].

Applicant believes that the above amendments do not present new matter. Favorable reconsideration and allowance of claims 1-16 are respectfully requested in view of the above amendments and the following remarks.

Applicant's amended independent claims 1 and 10 require a housing (1) that encases and seals components of the probe system, a window (10/11) through which illuminant light from an illuminant light source (3) within the housing (1) exits the housing (1) and enters a chamber (13) and through

which the reflected light from a sample material within the chamber (13) is reflected to an optical pickup means (4) within the housing (1), and means (12) for mounting the housing (1) to the chamber (13). In contrast, none of the prior art references, alone or in combination, discloses or suggests a probe system having the capability of being directly mounted to and supported by a chamber (13) that contains the sample material to be analyzed by the probe system. For example, Keane places a sample within a probe 21, and then connects the probe 21 with a cable 19 to a cabinet 11 that is remotely located from the probe 21 and contains the optical components of his instrument. Because Keane's cabinet 11 is remotely located from the probe 21 and the sample being analyzed, Keane does not disclose and cannot suggest Applicant's mounting means (12).

Keane, Arquilevich, and the remaining prior art of record also fail to disclose or suggest a rotatable shutter wheel (18) as recited in Applicant's claims 7 and 15, in which the wheel (18) is operable to shutter an optical pickup means (4) from reflected light. In particular, Arquilevich's shutter 350 shutters a white target 370 and not an optical pickup.

Keane, Alcock, and the remaining prior art of record also fail to disclose or suggest curved windows (10/11) as recited in Applicant's claims 8,

10 and 16, which reflect a portion of illuminant light from an illuminant light source (3) back to the illuminant light source (3) and away from an optical pickup means (4). Instead, the curved end 14 of Alcock's glass rod 12 is intended to reflect light emitted from a fiber 10 onto a masked area 20 adjacent the fiber 10, and not back into the fiber 10 itself.

Finally, Applicant respectfully disagrees that the use of a pipe fitting (12,14) and clamp (17), particularly as now recited in claims 9 and 16, would be obvious, since pipe fittings (12,14) are not inherently configured or intended to mount housings to walls of chambers.

In view of the above, Applicant respectfully believes that the prior art of record does not anticipate the probe system recited in Applicant's claims 1-3 and does not obviate the probe system of claims 4-16. Applicant therefore respectfully requests withdrawal of the rejections to the claims under 35 USC §102 and 103, and that his patent application be given favorable reconsideration.

Though the above remarks are primarily limited to certain limitations of the claims, Applicant believes that other limitations of the claims provide additional grounds of patentability over the cited references, and Applicant reserves the right to present these additional grounds at a later time if

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necessary.

Should the Examiner have any questions with respect to any matter now of record, Applicant's representative may be reached at (219) 462-4999.

Respectfully submitted,



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